

REMARKS/ARGUMENTS

Claim 1 has been amended to incorporate the element from claim 6, and claim 6 has been cancelled. New claim 12 incorporates an element from previous claim 10. Various minor amendments have been made to conform the claims from European to US practice. No amendment should be construed as acquiescence in any ground of rejection. Applicants respond to the office action using the paragraph numbering of the office action.

1. The term 'characterized in that" has been changed to "wherein."
- 2-3.
 - a. The term "in use" has been deleted as not necessary to an understanding of the claim.
 - b. Reference to "the spectrum" in claims 1 and 8 has been deleted.
 - c. The Examiner alleges that claim 11 provides for the use of the apparatus of claim 1, and rejects the claims as unclear and for lack of statutory subject matter. However, claim 11 is not a use claim but rather an apparatus claim. Specifically the claim is directed to an air-heating apparatus comprising the arrangement of claim 1. If the rejection is maintained, clarification is requested of the Examiner's position as to why he believes claim 11 is a "use" claim.
 - d. The narrower range specified in claim 10 is now specified in new claim 12.
- 4-5. Claims 1, 6, 8, 9, and 11 stand rejected as anticipated by Gumienny. This rejection is respectfully traversed particularly as applied to the amended claims.

Claim 1 as amended requires that the burner element be placed inside the heat exchanger element(s) i.e., actually to have a combustion within the heat exchanger. Placement of the burner within the exchange achieves a higher temperature and allows radiative heat transfer to the secondary gas. By contrast in the cited reference, the host exhaust gases from the burner are guided through the heat exchanger elements. The actual burn process takes places outside the heat exchanger. The reference therefore does not discloses the feature of a burner inside a heat exchanger.

Indeed the cited reference teaches away from using radiative heat transfer to a secondary gas. Fig. 1 of the reference shows that at the inlet of the exhaust gases into the heat exchanger, a second inlet is provided for supply of ambient air (i.e., not from the burner) to the exhaust gases. A skilled person would observe that such a measure reduces the temperature of exhaust gases entering the heat exchanger and thus also reduces the temperature of the surface of the exchange to 500° C (col. 2, line 45). (Gumienny's reference to 1000° C noted by the Examiner occurs in his description of the prior art, and not his own apparatus.) Moreover, the transfer efficiency of the exchange in Gumienny's apparatus is reduced as well. For these reasons, it is submitted that the claimed invention is neither obvious nor anticipated by Gumienny.

6-11. Claims 2, 3, and 10 stand rejected as obvious over Gumienny. The Examiner takes official notice that the elements missing from Gumienny are well known in the art. In response, it is submitted that claims 2, 3 and 10 are novel and nonobvious for at least the same reasons as claim 1. In the circumstances, it is unnecessary to address the Examiner's contention that other claim elements not found in Gumienny are well known in the art.

12-13. Claims 1-11 stand rejected as obvious over Thompson. The Examiner takes official notice that claim elements not disclosed by Thompson are well known in the art. This rejection is respectfully traversed for essentially the same reasons as discussed in connection with Gumienny. That is, Thompson does not disclose a burner element be placed inside the heat exchanger element(s) and its attendant advantage of radiant heat transfer to a secondary gas. In the circumstances, it is unnecessary to address the Examiner's contention that other claim elements not found in Thompson are well known in the art.

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Amdt. dated August 2, 2004
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PATENT

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,



Joe Liebeschuetz
Reg. No. 37,505

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: 650-326-2400
Fax: 415-576-0300
Attachments
JOL:sej
60225038 v1